

Patient Satisfaction After Mohs Surgery is not Dependent on Seeing Post-Mohs Defect Prior to Repair

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ABSTRACT

Background: Optimizing patient satisfaction and scar outcomes is important for the practicing Mohs surgeon. **Objective:** To evaluate whether showing or not showing patients their post-Mohs defect prior to repair influences scar satisfaction. **Materials and methods:** Fifty patients with a nonmelanoma skin cancer on their head or neck requiring Mohs micrographic surgery were randomized to either see or not see their post-Mohs defect in the mirror prior to repair. Patients evaluated their scar at Week 1 and Week 4 using the patient scar assessment questionnaire. **Results:** There was no statistically significant difference in the primary (scar satisfaction) or secondary outcomes (wound care compliance and complication rates) between the two groups. **Conclusion:** There is no difference in patient scar satisfaction whether patients see or do not see their post-Mohs defect prior to repair. (*J Clin Aesthet Dermatol.* 2015;8(11):33–37.)

Mohs micrographic surgery (MMS) is a specialized surgical and histopathological technique designed to ensure complete removal of complicated skin cancers while sparing as much normal tissue as possible. The Mohs surgeon repairs the majority of these defects themselves, and it is important to study factors that may improve patient satisfaction and wound care compliance. The need to improve quality in healthcare delivery is increasing. The Centers for Medicare & Medicaid Services (CMS), hospitals, and insurance providers are trying to measure quality of healthcare through patient satisfaction.^{1,2} An important component of pay-for-performance metrics is patient satisfaction. Under the CMS Hospital Inpatient Value-Based Purchasing (HIVBP) program, Medicare reimbursements are becoming linked to patient satisfaction from surveys completed by patients.^{2,3} Therefore, physicians need to be more cognizant of the factors that influence patient perception and satisfaction.

Many reports have been published documenting patient satisfaction with Mohs surgery and with the cosmetic benefit of the different closure techniques.^{4–7} A prominent study by Asgari et al⁴ identified the predictors of increased patient satisfaction with Mohs surgery. These included better pre-operative skin-related quality of life and more intraoperative Mohs stages.⁴ To date, there have

been no published reports about how seeing or not seeing the final post-Mohs defect prior to repair affects a patient's perception of their cosmetic outcome.

In the authors' practice, they routinely encourage patients to look at their wounds in a mirror before repair. They have been doing so because they believe that when patients view their defect, they better appreciate the extent of their cancer, and then have more realistic expectations of the final cosmetic result. Furthermore, the authors have noticed that some patients take better care of their wounds once they see the extent of the cancer. Their unpublished observation is that most patients prefer to see their defect in the mirror, especially when repair options are discussed. Very seldom do the authors have patients refuse to examine their post-Mohs defect in the mirror. However, it is unclear whether patient scar satisfaction is altered by seeing or not seeing their post-Mohs defect in the mirror prior to wound repair.

The purpose of this study was to determine whether or not showing patients their post-Mohs defect in a mirror prior to repair alters their satisfaction with the scar.

MATERIALS AND METHODS

The study protocol was approved by the Institutional Review Board at Roger Williams Medical Center (Providence, Rhode Island) with waiver of informed

DISCLOSURE: The authors report no relevant conflicts of interest.

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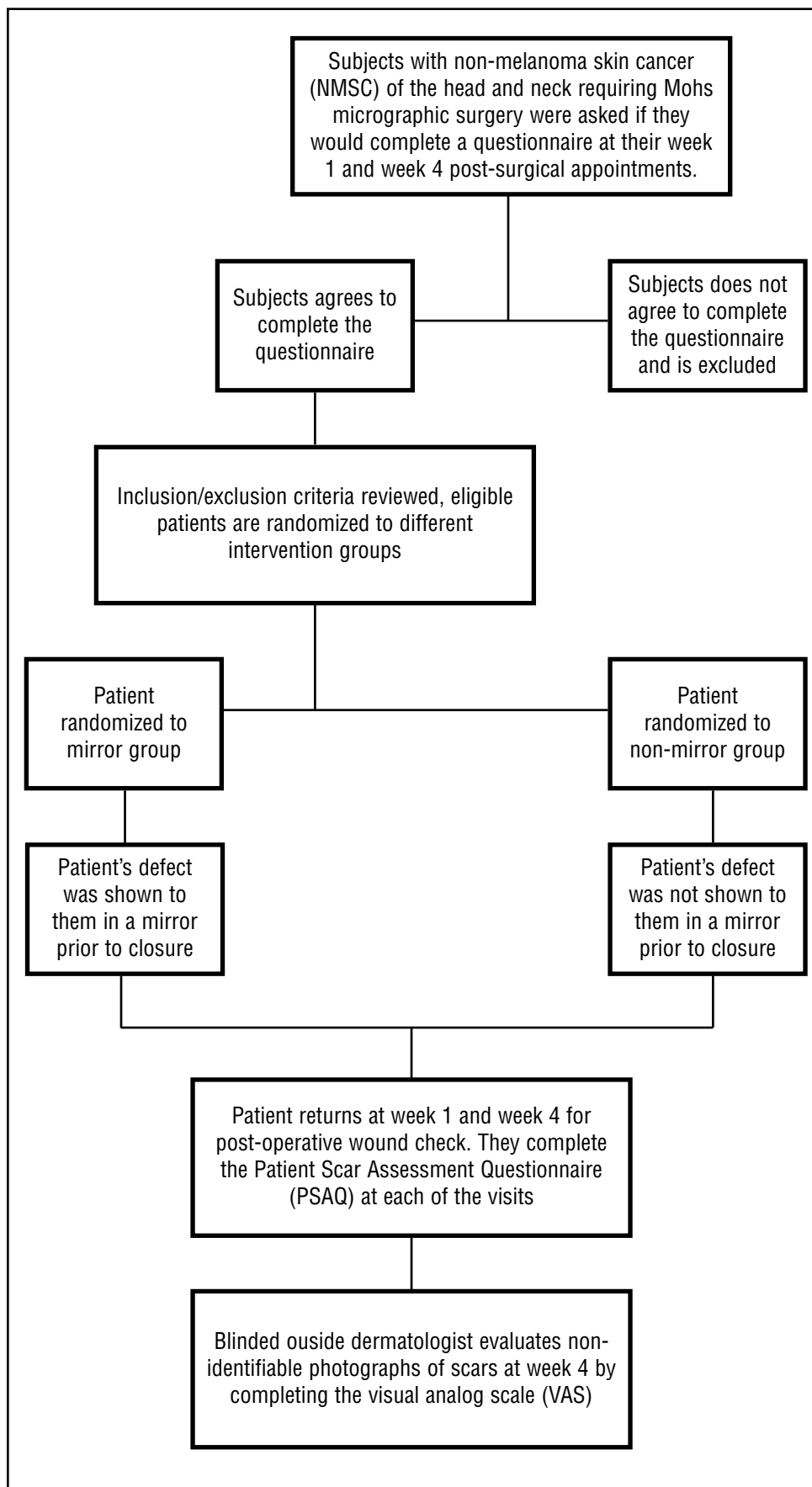


Figure 1. Trial design

consent. Waiver was granted because the review board found and documented that the study met the criteria for consent of waiver set forth in 45CFR46.116(d).

Study population. Women and men aged 18 years and older who presented to the MMS unit with a nonmelanoma skin cancer (NMSC) of the head and neck requiring MMS who agreed to complete the Patient Scar Assessment Questionnaire (PSAQ) were eligible for enrollment (Figure 1). Exclusion criterion included the use of systemic corticosteroids or immunosuppressive agents for a known medical condition. Additional exclusion criteria included the following: a history of nonadherence to medical regimens, patients who were unable to read the questionnaire, patients in the care of a secondary party who could not actively perform their own wound care, and patients with a known history of a memory deficit.

Study design. Fifty evaluable patients requiring MMS for their NMSC of the head and neck who met all study inclusion and exclusion criteria were enrolled into this single-center study.

Day of surgery. Patients with NMSC on the head and neck who underwent MMS were prospectively identified. Patients were asked if they were willing to complete a PSAQ at their Week 1 and Week 4 follow-up visits. If the patient agreed to fill out the questionnaire, they were randomized to either the mirror group or the non-mirror group, according to the randomization list generated prior to the start of patient recruitment. Patients were consecutive. If they broke randomization, they were excluded from the study. Post-operatively, the reconstruction method was discussed and agreed upon by the investigator and patient while the patient ex-

amined or did not examine their post-Mohs defect in a mirror based on their randomization. A photograph of the post-Mohs defect was taken of all patients. All patients, regardless of their randomization group, spent time learning how to care for their wounds with the physician and the nurse. In addition, wound care instructions were verbalized and provided on a piece of paper to take home to refer to if necessary. The patient was asked to return in one week for follow-up.

Follow-up visits. Patients returned for two follow-up visits; at Week 1 and Week 4. At Week 1, sutures were removed (if necessary), the wound was assessed, and any complications were documented. Patients completed the PSAQ and photographs were taken.

At Week 4, the wound was assessed and complications, if any, were documented. Patients completed the PSAQ and photographs were taken.

At the conclusion of the study period, a blinded outside dermatologist (HAD) was provided unidentifiable images of the patients' scars at Week 4 and asked to assess them according to the Visual Analog Scale (VAS).

The primary outcome was patient satisfaction of their scar as measured with the PSAQ at Week 1 and Week 4. The PSAQ consists of four subscales: appearance, consciousness, satisfaction with appearance, and satisfaction with symptoms. The symptoms subscale is omitted from analysis per PSAQ instructions because of insufficient reliability. Each subscale is a set of items with 4-point categorical responses (from 1=most favorable to 4=least favorable). The sum of the questions quantifies each subscale.⁸ Lower scores in the PSAQ reflect higher satisfaction. Secondary outcomes included wound care compliance, complication rate, and physician-rated scar quality as measured by the VAS.

Statistical analysis. The data are presented as mean \pm standard error, declared significant by student *t*-test where $p < 0.05$ was considered significant.

RESULTS

Fifty patients were enrolled in the study. A total of 36 patients completed the study. Twenty patients were assigned the mirror group (11 male and 9 female), and 16 (11 male and 5 female) were assigned to the non-mirror control group. Patient ages ranged from 42 to 88 years of age. Of the 36 patients, 18 patients reported previously having MMS in the past. The types of repairs that were performed included linear closures, full-thickness skin graft, local flaps, and secondary intention. Of the 36 patients, 35 were Caucasian. Sixty-four percent of the tumors were basal cell carcinomas, and 36 percent were squamous cell carcinomas (Table 1).

There was no statistically significant difference in PSAQ scores between the mirror and non-mirror groups at Week 1 and at Week 4 (Figures 2A and 2B). The physician-rated scar quality as measured by VAS resulted in no significant difference between the mirror and non-mirror groups (Figure 3). Wound care adherence was documented at Week 1 (data not shown) and Week 4 (Figure 4). All patients, regardless of randomization

TABLE 1. Patient characteristics

	MIRROR (n)	NON-MIRROR (n)
Total enrolled	25	25
Lost to follow-up	5	9
Completed study	20	16
Sex		
Female	9	5
Male	11	11
Age		
≤ 65	11	12
≥ 66	7	6
Race		
Caucasian	17	18
Hispanic	0	1
Tumor type		
BCC	14	12
SCC	6	4
Previously had Mohs		
Yes	11	7
No	9	9
Closure types		
Linear	5	8
Secondary intention	10	5
Flap/graft	5	3

group, were compliant with their wound care as assessed at Week 1 and Week 4, as measured by the patient's report of keeping the area moist and covered as well as no visualization of excessive crust on the wounds at their follow-up visits. One patient in the non-mirror group developed an infection requiring oral antibiotics despite appropriate wound care. None of the patients in the mirror group reported any complications. No other adverse events were experienced in either group.

The authors next evaluated if there was a subset of patients who were more or less satisfied by seeing or not seeing their post-Mohs defect in the mirror as measured by the PSAQ score. There were no statistically significant differences in age, sex, and closure type in the mirror versus non-mirror group at Week 1 and Week 4 (Table 2). There was no difference in the VAS score between age, sex, previous Mohs surgery, and closure type in the mirror versus non mirror group (data not shown).

DISCUSSION

A number of studies have examined patient satisfaction with MMS.^{4,9} Patient satisfaction is an especially important

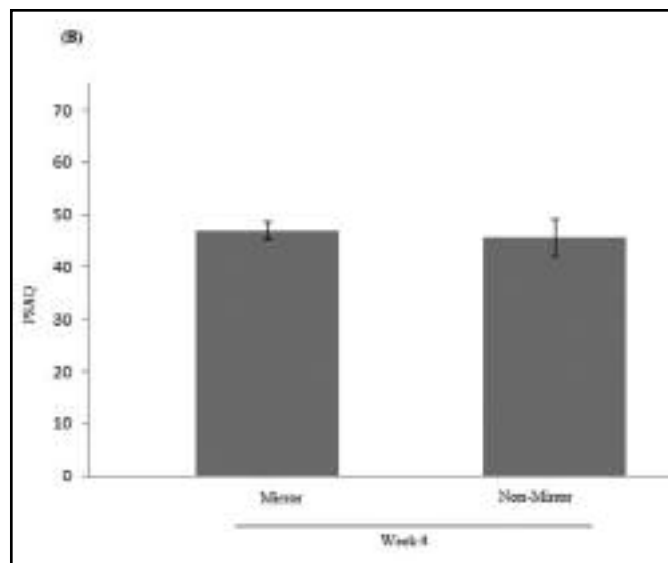
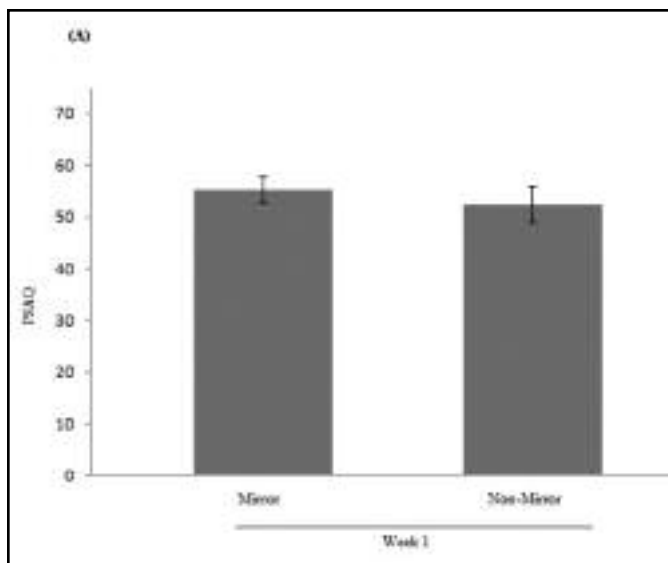


Figure 2. There was no significant difference in PSAQ between the mirror and non-mirror group at Week 1 (A) or Week 4 (B).

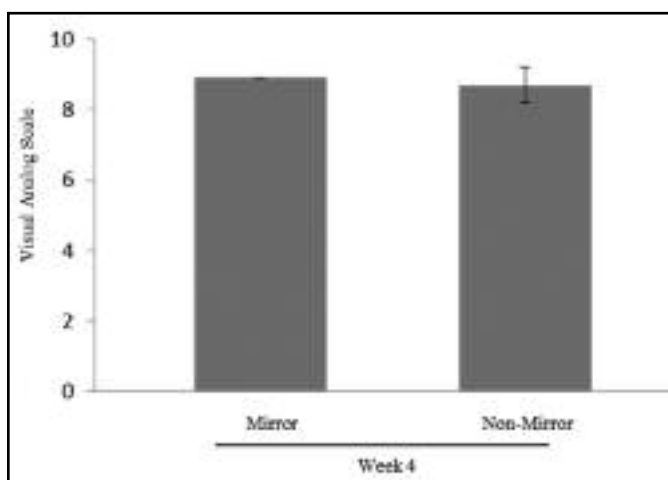


Figure 3. There was no significant difference in the VAS between the mirror and non-mirror group.

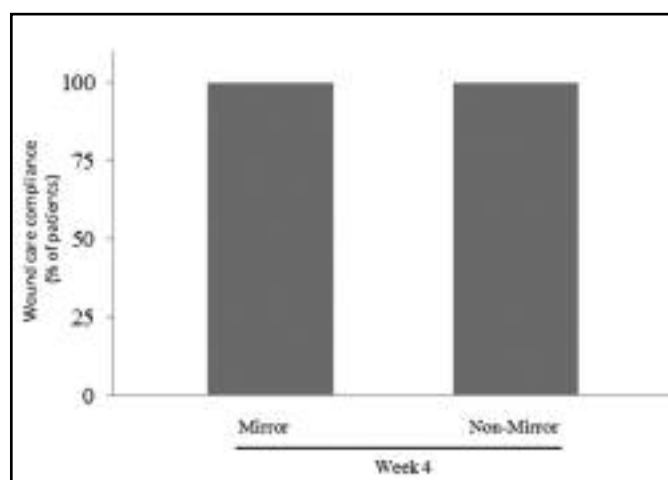


Figure 4. Wound adherence was equal between the mirror and non-mirror group.

outcome measure in dermatology as dermatologic diseases affect cosmetic appearances and related quality of life. This included MMS particularly related to surgical reconstruction. As our healthcare system moves more toward assessing patient satisfaction, it is imperative that treating physicians understand the variables that influence patient satisfaction. To date, there have not been any studies that examine if seeing or not seeing a post-Mohs defect prior to repair affects patient satisfaction.

The authors' results showed that there was no difference between treatment groups when measuring patient scar satisfaction at Week 1 or Week 4. Patients who were shown their defect in the mirror were no better at caring for their wound compared to patients that did not see their post-Mohs defect in a mirror. There was no difference in wound care management and complication rate between the two treatment groups as well. An independent dermatologist blinded to the randomization assignment examined images of the patient's scars at Week 4 and completed the VAS. There

were no differences in VAS score between mirror and non-mirror group, indicating that there were no differences in scar perception by either the patient or the dermatologist. Therefore, in general, it may not be crucial to show every patient their Mohs defect before the defect is reconstructed.

However, one limitation of this study is the small sample size. Twenty-five patients enrolled in the mirror group and 25 patients in the non-mirror group; 14 patients were lost to follow-up. Of the patients lost to follow-up, 77 percent of the patients did not feel it necessary to return for their Week 4 assessment, since at Week 1, their wounds had already healed well. Statistically, NMSC are more common in older Caucasian men.¹⁰ The authors' study population directly reflected this statistic. However, there was a lack of patient variety, with more males compared to females, and only one minority (non-white Hispanic).

A second limitation involves those patients whose Mohs defects were allowed to heal by secondary intention. Those patients, whether they were in the

TABLE 2. PSAQ scores for independent variables

	WEEK 1			WEEK 4		
	MIRROR	NON-MIRROR	p VALUE	MIRROR	NON-MIRROR	p VALUE
Age						
≤65	56±3	62±7	0.17	47±3	55±3.3	0.13
>65	53±5	48±4	0.16	46±2.4	41±3	0.13
Sex						
Female	39±4.5	59±7	0.48	48±2.1	50±4.8	0.31
Male	52±2.7	50±4	0.29	46±2.5	43±4.9	0.32
Previous Mohs						
Yes	54±3.8	46±5	0.08	48±2.3	40±4.5	0.06
No	56±3.6	58±4	0.38	45±2.3	49±5.4	0.24
Closure type						
Linear	49±5	46±3	0.29	44±4.7	41±5.2	0.65
Secondary intention	56±5	62±8	0.22	48±2	47±5.2	0.36
Flap/graft	60±6.5	55±7	0.31	49±3	55±15	0.29

mirror or non-mirror groups, in effect, viewed their Mohs defect whenever they cared for their wounds for the weeks following the surgery. In contrast, those patients who were repaired by other means and who were in the non-mirror group, never saw their post-Mohs defect. The secondary intention group may therefore have diminished the contrast between the mirror and non-mirror groups.

A third limitation has to do with the difficulty in stratifying patients to determine which patients would benefit from viewing the Mohs defect. A subset of patients underestimate the extent of their cancer, and they wonder why the size of the closure is so large. For those patients, in the authors' clinical experience, they have found it to be more beneficial to show them the post-Mohs defect to make their expectations more realistic. Unfortunately, because of the small sample size, the authors were unable to stratify patients to determine which patients would benefit from viewing their post-Mohs defect. Still, given these caveats, it may be fine to close the wound immediately after Mohs surgery without necessarily showing every patient their post-Mohs defect.

CONCLUSION

Our results showed that there was no difference in patient scar satisfaction whether patients see or do not see their post-Mohs defect prior to repair. Patients who were shown their defect in the mirror were no better at caring for their wound compared to patients that did not see their post-Mohs defect in a mirror. There was no difference in wound care management and complication rate between the two treatment groups as well.

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